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## NOTICE OF ALLOWANCE AND FEE(S) DUE

2292 7590 01/02/2009

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

HU, HENRY S

ART UNIT

PAPER NUMBER

1796

DATE MAILED: 01/02/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/626,695

07/25/2003

Ronald Hubert Carlos Cornelissen

0142-0419P

2677

TITLE OF INVENTION: CROSS-LINKABLE COMPOUNDS COMPRISING A PERFLUOROPOLYETHER MOIETY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	04/02/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

2292 7590 01/02/2009

**BIRCH STEWART KOLASCH & BIRCH**  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,695	07/25/2003	Ronald Hubert Carlos Cornelissen	0142-0419P	2677

TITLE OF INVENTION: CROSS-LINKABLE COMPOUNDS COMPRISING A PERFLUOROPOLYETHER MOIETY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	04/02/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
HU, HENRY S	1796	525-326200

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/626,695	07/25/2003	Ronald Hubert Carlos Cornelissen	0142-0419P	2677
2292	7590	01/02/2009	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			HU, HENRY S	
			ART UNIT	PAPER NUMBER
			1796	
DATE MAILED: 01/02/2009				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 745 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 745 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/626,695	CORNELISSEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	HENRY S. HU	1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment of August 11, 2008.
2. ☒ The allowed claim(s) is/are 2-3, 5-7 and 12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|--|---|

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in two telephone interviews with **Joseph A. Kolasch (registration # 22,463, tel: 703 205-8000) on October 22 and 29, 2008** to cancel Claims 1 ad 4 as well as non-elected Claims 8-11 (Groups II-IV), to renumber Claim 12 and to amend the claim dependency on Claims 5-7 as following:

#### **Claim**

**Claims 1, 4 and 8-11** please cancel Claims 1, 4 and 8-11

**Claim 12** please renumber Claim 12 as new Claim 1

**Claims 5-7** please change the claim dependency from "claim 4" to "claim 1 or claim 2"

## DETAILED ACTION

2. This Office Action is in response to **Amendment** filed on August 11, 2008 (in response to NF of 1<sup>st</sup> RCE). Along with the above examiner's amendment, **Claim 1 is amended; Claims 1 and 4 as well as non-elected Claims 8-11 are all cancelled, while new Claim 12 is added.** To be specific, newly submitted parent Claim 12 is directly related to the cancelled parent Claim 1 but adding the formula limitation from Claim 4.

The examiner's amendment has cancelled the above-mentioned **Claims 1 and 4 as well as non-elected Claims 8-11 (Groups II-IV)**. **Claims 2-3, 5-7 and 12** with only one independent claim (Claim 12) are now pending. An action follows. (See international search report for Applicants' priority paper **EP 1,384,742 A1 to Cornelissen et al.**).

3. Claim rejections under **Non-Final** Office Action (for 1<sup>st</sup> RCE) filed on April 9, 2008 are now removed for the reasons given in paragraphs 4-14 thereafter.

### *Allowable Subject Matter*

4. Claims 2-3, 5-7 and 12 are allowed.

5. The following is an examiner's statement of reasons for allowance: The above Claims

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2-3, 5-7 and 12 are allowed over the closest references:

6. The limitation of parent **Claim 12** in present invention relates to **a cross-linkable compound comprising a perfluoropolyether (PFPE)-containing moiety** which is ultimately terminated by an oxygen atom and bonded through a spacer attached to the said oxygen atom with an ethylenically unsaturated group, wherein the spacer extends linearly over at least three atoms in a row between the oxygen atom and the ethylenically unsaturated group, said cross-linkable compound having the formula  **$D-(C_nF_{2n}O)_m-Q-B-A$** , wherein

*A* stands for an ethylenically unsaturated group selected from the group consisting of  **$HR_1C=CR_2-$**  and  **$HR_1C=CR_2Si(R_4)_2-$** , wherein  $R_1$  is selected from H, alkyl, phenyl, alkyl-substituted phenyl and aralkyl;  $R_2$  is selected from H, alkyl, phenyl, alkyl-substituted phenyl and aralkyl and  $R_4$  being independently H or alkyl;

***B*** stands for a hydrocarbyl or fluorocarbyl spacer extending over **at least three carbon atoms**;

**$(C_nF_{2n}O)_m$**  is the PFPE moiety wherein  $n$  is independently an integer of 1 to 4 and  $m$  is an integer of 2 to 500;

***Q*** stands for a bivalent group selected from  **$-CF_2-CH_2-O-$**  and  **$-CH_2-CH_2-O-$** ; and

***D*** stands for  **$HO-CH_2CF_2-O-$**  or  **$A-B-Q-O-$** , wherein  $n$ ,  $A$ ,  $B$ , and  $Q$  have the previously given meanings.

*See other limitations of dependent **Claims 2-3 and 5-7.***

7. Newly submitted parent Claim 12 is directly related to the cancelled parent Claim 1 but adding the specific formula limitation from Claim 4. Claims 1 and 4 are cancelled accordingly. Applicants have now claimed in parent **Claim 12** an unexpected way of obtaining **a cross-linkable compound** comprising a perfluoro-polyether (PFPE)-containing moiety. The key point is that the compound following a specific formula of  $\text{D}-(\text{C}_n\text{F}_{2n}\text{O})_m\text{-Q-B-A}$  with all factors as specified.

8. For instance, it is ultimately terminated by an oxygen atom and bonded through a spacer attached to the said oxygen atom with an ethylenically unsaturated group, wherein the spacer extends linearly over at least three atoms in a row between the oxygen atom and the ethylenically unsaturated group. It is clearly a further narrow down from the original parent Claim 1 which just requires the spacer extends over at least three atoms between the oxygen atom and the ethylenically unsaturated group.

9. Regarding cross-linkable monomeric compound in newly added parent **Claim 12**, each of **two** references including 102(b) by **Tarumi** and 102(e) by **Yamaguchi** only discloses the preparation of some curable fluoropolyether rubber compositions by comprising a straight-chain fluoropolyether compound, which has at least two alkenyl groups in the molecule and having a divalent perfluoropolyether structure in its backbone chain.



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10. Current amendment (for NF of 1<sup>st</sup> RCE) involves on parent Claim 12 is to use **a non-oxygen-containing spacer extending linearly over at least three atoms in a row** between the oxygen atom and the ethylenically unsaturated group. With the incorporation of a specific formula  **$D-(C_nF_{2n}O)_m-Q-B-A$**  from Claim 4, Applicants have now applied the consistent definition on the chemical structure for the perfluoropolyether (PFPE) moiety **per suggestion of Examiner**.

11. Some of many different spacer groups” used by Tarumi and Yamaguchi has already extended at least three atoms in total and only carry carbon atoms with no oxygen atom. For instance, see Tarumi at **column 3, lines 8-9** (see the second formula with a spacer having three carbon atoms); also see Yamaguchi at **column 3, lines 18-19** (see the second formula with a spacer having three carbon atoms). However, **none of PFPE containing polymerizable compounds disclosed by Tarumi and Yamaguchi reads exactly on chemical structure of new parent Claim 12**.

12. It is noted by this Examiner that Applicants’ cross-linkable compound related to new parent Claim 12 with formula  **$D-(C_nF_{2n}O)_m-Q-B-A$**  is certainly different from that of prior art references. Even a small difference in one of the components, the resultant packaging solutions will behave at least somewhat differently.

13. After further examination and search, the examiner found the following prior art did not teach the claimed limitation:

**US 4,565,714 to Koshar** only discloses the preparation of various curable compounds for making low surface energy materials. Such curable compound comprises PTFE moiety, two alkenyl groups, and two spacer groups. Some of them may have the same part of structure. However, most of the spacer groups carry heteroatom and thereby cannot read on dependent Claims 4-7. Therefore, Koshar fails to teach or fairly suggest present invention of new parent Claim 12.

14. With the addition of formula **D-(C<sub>n</sub>F<sub>2n</sub>O)<sub>m</sub>-Q-B-A** from dependent Claim 4 as well as the required use of non-oxygen-containing spacer extending linearly over at least three atoms in a row between the oxygen atom and the ethylenically unsaturated group, the chemical structure of new parent Claim 12 is now missing for the prior art references in combination or alone. Therefore, the present invention is novel.

15. As of the date of this office action, the examiner has not located or identified any reference that can be used singularly or in combination with another reference including the above references to render the present invention anticipated or obvious to one of the ordinary skill in the art. Therefore, the parent **Claim 12** is allowed for the reason listed above. Since the prior art of record fails to teach the present invention, the remaining pending dependent **Claims 2-3 and 5-7** are passed to issue.

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16. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu whose telephone number is (571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Vasu Jagannathan, can be reached on (571) 272-1119. The **fax** number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Peter D. Mulcahy/  
Primary Examiner, Art Unit 1796

/Henry S. Hu/  
Examiner, Art Unit 1796

November 17, 2008